CLAIMS

1   1.   A method for temporal concealment of missing/corrupted macroblocks in a video
2   stream coded in direct mode, comprising the steps of :
3   identifying at least one missing/corrupted macroblock;
4   finding a co-located macroblock in a first previously transmitted picture;
5   determining a co-located motion vector for the co-located macroblock;
6   scaling the co-located motion vector in accordance with a Picture Order Count (POC)
7   distance;
8   predicting missing/corrupted data for the identified macroblock by motion compensating
9   data from both the first previously transmitted picture and a second previously transmitted
10   reference picture in accordance with the scaled co-located motion vector.

1   2.   The method according to claim 1 wherein the missing/corrupted data is predicted
2   using a temporal-direct mode.

1   3.   The method according to claim 1 wherein the missing/corrupted data is predicted
2   using one of the temporal and spatial-direct modes derivation processes in accordance with at
3   least one criterion selected prior to such predicting.

1   4.   The method according to claim 3 wherein selection of one of the temporal and
2   spatial-direct modes derivation processes is made in accordance with concealment region size.

1   5.   The method according to claim 4 wherein selection of one of the temporal and
2   spatial-direct modes derivation processes is made in accordance a derivation mode of
3   neighboring slices.

1   6.   The method according to claim 1 wherein the missing/corrupted data is predicted
2   by the steps of:
3   performing the temporal and spatial-direct modes derivation processes; and
4   selecting results of one of the temporal and spatial-direct modes derivation processes in
5   accordance with at least one a posteriori criterion.

1   7.   The method according to claim 1 further comprising the step of deriving a size of

2   blocks in the first and second pictures to which to apply the co-located motion vector.

1   8.   The method according to claim 1 wherein the results are selected in accordance

2   with a boundary strength value of deblocking in accordance with the ITU H.264 coding standard.

1   9.   The method according to claim 1 wherein the missing/corrupted data is predicted

2   using a temporal-direct mode defined in the ITU H.264 coding standard.

1   10.   A method for temporal concealment of missing/corrupted macroblocks in a video

2   stream coded in direct mode in accordance with the ISO/ITU H. 264 coding standard, comprising

3   the steps of:

4   identifying at least one missing/corrupted macroblock;

5   finding a co-located macroblock in a first previously transmitted picture;

6   determining a reference index and a motion vector for the co-located macroblock;

7   scaling the motion vector;

8   selecting a second previously transmitted picture in accordance with the reference index;

9   and

10   predicting missing/corrupted data for the identified macroblock by motion compensating

11   data from the first and second previously transmitted reference pictures in accordance with the

12   determined motion vector.

1   11   The method according to claim 10 wherein the missing/corrupted data is predicted

2   using a temporal-direct mode defined in the ITU H.264 coding standard.

1   12.   The method according to claim 10 wherein the missing/corrupted data is predicted

2   using a spatial-direct mode defined in the ITU H.264 coding standard.

1   13.   The method according to claim 10 wherein the missing/corrupted data is predicted

2   using one of the temporal and spatial-direct modes derivation processes defined in the ITU H.264

3   coding standard in accordance with at least one criterion selected prior to such predicting.

1   14.   The method according to claim 10 wherein selection of one of the temporal and

2   spatial-direct modes derivation processes in made in accordance with concealment region size.

1   15.   The method according to claim 14 wherein selection of one of the temporal and

2   spatial-direct modes derivation processes in made in accordance a derivation mode of

3   neighboring slices.

1   16.   The method according to claim 10 wherein the missing/corrupted data is predicted

2   by the steps of:

3   performing the temporal and spatial-direct modes derivation processes defined in the ITU

4   H.264 coding standard; and

5   selecting results of one of the temporal and spatial-direct modes derivation processes in

6   accordance with at least one a posteriori criterion.

1   17.   The method according to claim 16 wherein the results are selected in accordance

2   with a boundary strength value of deblocking in accordance with the ITU H.264 coding standard.